

Jackson School Presenters at 2013 GSA Annual Meeting

From the GSA online schedule. Send revisions to communications@jsg.utexas.edu.

Contents

Short Courses	2
Saturday	2
Oral Presentations	2
Sunday.....	2
Monday	10
Tuesday	16
Wednesday.....	21
Poster Sessions.....	28
Sunday.....	28
Monday	30
Tuesday	31
Wednesday.....	35

Short Courses

Saturday, Oct. 26

515. Fundamentals of Mudrock chemostratigraphy: Handheld XRF Analysis, Calibration, and Interpretation.

Sat., 26 Oct., 8 a.m.–5 p.m. Hyatt CCC, Centennial Ballroom E

US\$50. Limit: 84. CEU: 0.8.

Instructors: Harry Rowe, Bureau of Economic Geology at The University of Texas at Austin; Alexander Seyfarth, Bruker Elemental; Bruce Kaiser, Bruker Elemental

Oral Presentations

Sunday, Oct. 27

Session No. 1

New Insights in Geochemistry

Sunday, 27 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 504

Paper No. 1-8

Presentation Time: 10:00 AM

EVALUATING THE ADVANTAGES, LIMITATIONS, AND PITFALLS OF HANDHELD X-RAY FLUORESCENCE SPECTROMETRY AND "GONIOMETER-LESS" X-RAY DIFFRACTION IN DRILL CORE-BASED STRATIGRAPHIC STUDIES

ROWE, Harry, Bureau of Economic Geology, The University of Texas at Austin, The Jackson School of Geoscience, University Station, Box X, Austin, TX 78713-8924, harry.rowe@beg.utexas.edu

Session No. 1

New Insights in Geochemistry

Sunday, 27 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 504

Paper No. 1-9

Presentation Time: 10:15 AM

μ -XRF SPECTROMETRY OPTIMIZATION IN TRACE ELEMENT ANALYSIS IN SPELEOTHEMS

BUCKLES, Jessica, Earth and Environmental Sciences, University of Texas at Arlington, 500 Yates St. Box 19049, Arlington, TX 76019, buckles@uta.edu and ROWE, Harry, Bureau of Economic Geology, The University of Texas at Austin, The Jackson School of Geoscience, University Station, Box X, Austin, TX 78713-8924

Session No. 5

Special Session: GSA 125th Anniversary Books: I, The Web of Geological Sciences: Advances, Impacts, and Interactions; II, The Impact of Geological Sciences on Society: Authors Present Summaries of Their Articles I

Sunday, 27 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 607

Paper No. 5-3

Presentation Time: 8:45 AM

MAJOR ADVANCES IN SILICICLASTIC SEDIMENTARY GEOLOGY, 1960-2012:
PROCESSES, DEPOSITIONAL SYSTEMS AND STRATIGRAPHY

STEEL, Ron, Geological Sciences, University of Texas at Austin, Austin, TX 78702,

rsteel@jsg.utexas.edu

Session No. 5

Special Session: GSA 125th Anniversary Books: I, The Web of Geological Sciences: Advances, Impacts, and Interactions; II, The Impact of Geological Sciences on Society: Authors Present Summaries of Their Articles I

Sunday, 27 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 607

Paper No. 5-4

Presentation Time: 9:00 AM

MAJOR ADVANCES IN SILICICLASTIC SEDIMENTARY GEOLOGY, 1960-2012:
PETROLOGY

MILLIKEN, Kitty, Bureau of Economic Geology, The University of Texas at Austin, Austin, TX 78713, kittym@utexas.edu

Session No. 5

Special Session: GSA 125th Anniversary Books: I, The Web of Geological Sciences: Advances, Impacts, and Interactions; II, The Impact of Geological Sciences on Society: Authors Present Summaries of Their Articles I

Sunday, 27 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 607

Paper No. 5-11

Presentation Time: 11:00 AM

WATER, WATER EVERYWHERE

BODNAR, Robert J., Department of Geosciences, Virginia Tech, 4044 Derring Hall, Blacksburg, VA 24061, rjb@vt.edu, AZBEJ, Tristan, Deputy State Secretariat for Parliamentary Affairs, The Prime Minister's Office, 9/A. Markó u, Budapest, H-1055, Hungary, BECKER, S.P., Petroleum Geochemistry, Hydrocarbon Systems Division, ExxonMobil Upstream research Company, 3120 Buffalo Speedway, Houston, TX 77098, CANNATELLI, Claudia, Dipartimento di Scienze della Terra, Università di Napoli Federico II, Napoli, 80134, Italy, FALL, Andrés, Bureau of Economic Geology, Jackson School of Geosciences, The University of Texas at Austin, University Station, P.O. Box X, Austin, TX 78713-8924, and SEVERS, Matthew J., Geology, The Richard Stockton College of New Jersey, 101 Verra King Farris Drive, Galloway, NJ 08205

Session No. 6

T1. Curiosity at Gale-Past and Present Environments of Mars

Sunday, 27 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 201

Paper No. 6-13

Presentation Time: 11:10 AM

OVERVIEW OF RECENT GEOLOGIC ACTIVITY AT THE CURIOSITY LANDING SITE

LEWIS, Kevin, Department of Geosciences, Princeton, Princeton, NJ 08544, kwlewis@princeton.edu, BRIDGES, N., Applied Physics Laboratory, Johns Hopkins University, Laurel, MD 20723, EDGETT, Kenneth S., Malin Space Science Systems, P.O. Box 90148, San Diego, CA 92191-0148, FISK, Martin.R., College of Earth, Ocean, and Atmospheric Sciences, Oregon State University, 104 CEOAS Administration Building, Corvallis, OR 97331, HALLET, Bernard, Quaternary Research Center, University of Washington, Box 351310, 365 Johnson Hall, Seattle, WA 98195, KOCUREK, Gary, Geological Sciences, Jackson School of Geosciences, The University of Texas at Austin, 1 University Station C9000, Austin, TX 78712, NEWMAN, Claire E., Ashima Research, 600 S. Lake Avenue, Suite 104, Pasadena, CA 91106, RUBIN, David M., Coastal and Marine Geology, US Geol Survey, US Geological Survey Pacific Sciences Center, 400 Natural Bridges Drive, Santa Cruz, CA 95060, SLETTEN, Ronald S., Quaternary Research Center, Univ of Washington, 19 Johnson Hall, University of Washington Box 351360, Seattle, WA 98195, and MSL SCIENCE TEAM

Session No. 12

T69. Learning from the Impacts of Superstorm Sandy

Sunday, 27 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 501

Paper No. 12-9

Presentation Time: 10:15 AM

RECONSTRUCTING THE FORMATION OF AN OVERWASH FAN ON THE TEXAS COAST USING STORM SURGE DATA AND STRATIGRAPHY

SHAW, John, Department of Geology and Geophysics, University of Wyoming, A, Laramie, WY 82071, jshaw@mail.utexas.edu, YOU, Yao, Jackson School of Geoscience, University of Texas at Austin, Austin, TX 78751, MOHRIG, David, Jackson School of Geosciences, University of Texas at Austin, 1 University Station C9000, Austin, TX 78712, and KOCUREK, Gary, Geological Sciences, Jackson School of Geosciences, The University of Texas at Austin, 1 University Station C9000, Austin, TX 78712

Session No. 15

T111. The Structure and Evolution of the North American Lithosphere: An Integrated Perspective

Sunday, 27 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 401

Paper No. 15-8

Presentation Time: 9:45 AM

LITHOSPHERIC MODIFICATION AT THE SOUTHERN EDGE OF LAURENTIA REVEALED BY BROADBAND SEISMOLOGY

PULLIAM, Jay, Geology, Baylor University, One Bear Place #97354, Waco, TX 76798, Jay_Pulliam@baylor.edu, GRAND, Stephen P., Department of Geological Sciences, University of Texas at Austin, 1 University Station C1100, Austin, TX 78712, and GURROLA, Harold, Dept. of Geosciences, Texas Tech University, MS 1053, Science Building, Room 125, Lubbock, TX 79409-1053

Session No. 17

T118. The New K-12 Next Generation Science Standards I

Sunday, 27 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 403

Paper No. 17-11

Presentation Time: 11:15 AM

DIG TEXAS EARTH AND SPACE SCIENCE INSTRUCTIONAL BLUEPRINTS

ELLINS, Katherine K.1, SERPA, Laura F.2, RIGGS, Eric M.3, PENNINGTON, Deana4, FOX, Sean P.5, LARSEN, Krista5, LEDLEY, Tamara6, MOSHER, Sharon7, MILLER, Kate C.8, and STOCKS, Eric9, (1) Institute for Geophysics, Jackson School of Geosciences, The University of Texas at Austin, 10100 Burnet Rd., Bldg. 196, Austin, TX 78758, kellins@ig.utexas.edu, (2) Geological Sciences, University of Texas at El Paso, 500 W. University, El Paso, TX 79968, (3) College of Geosciences, Texas A&M University, Room 202, Eller O&M Building, MS 3148 TAMU, College Station, TX 77843, (4) University of Texas at El Paso, Cyber-ShARE Center of Excellence, 500 West University Avenue, El Paso, 79968-0555, (5) Science Education Resource Center, Carleton College, Northfield, MN 55057, (6) TERC, 2067 Massachusetts Ave, Cambridge, MA 02140, (7) Department of Geological Sciences, Jackson School of Geosciences, The University of Texas at Austin, 1 University Station C1100, Austin, TX 78712-0254, (8) Department of Geology and Geophysics, Texas A&M University, College Station, TX 77843, (9) Dept. of Psychology, The University of Texas at Tyler, 3900 University Blvd, Tyler, TX 75799

Session No. 24

T202. Critical Taper and Orogenic Flow: Compatible or Incompatible Elements?

Sunday, 27 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 506

Paper No. 24-8

Presentation Time: 10:30 AM

MODES OF EXTENSION IN COLLAPSING OROGENS

WU, Guangliang, Institute for Geophysics, Jackson School of Geosciences, University of Texas at Austin, J.J. Pickle Research Campus, Bldg. 196, 10100 Burnet Rd. (R2200), Austin, TX 78712, glwu@utexas.edu, LAVIER, Luc L., Institute for Geophysics- Jackson School of Geosciences, University of Texas at Austin, Pickle Research Campus, 10100 Burnet Rd. (Bldg 196), Austin, TX 78758-4445, and CHOI, Eunseo, Center for Earthquake Research and Information, University of Memphis, 3890 Central Ave, Memphis, TN 38152

Session No. 26

T218. Illuminating Felsic Origins: Using Novel Multiple-Method Approaches to Investigate the Birth of Silicic Magmas

Sunday, 27 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 205

Paper No. 26-8

Presentation Time: 10:20 AM

MATRIX CALCULATIONS AND DISCRIMINATION DIAGRAMS REVEAL THE ORIGIN OF DOKHAN VOLCANICS, EASTERN DESERT OF EGYPT

LONG, Leon E., Department of Geological Sciences, Jackson School of Geosciences, University of Texas, Austin, TX 78712, leonlong@jsg.utexas.edu and HASSAN, Adel M., Department of Geology, Tanta University, Tanta, Egypt

Session No. 65

Special Session: GSA 125th Anniversary Books: I, The Web of Geological Sciences: Advances, Impacts, and Interactions; II, The Impact of Geological Sciences on Society: Authors Present Summaries of Their Articles II

Sunday, 27 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 607

Geological Society of America Abstracts with Programs. Vol. 45, No. 7, p.183

Paper No. 65-6

Presentation Time: 2:15 PM

GLOBAL ENERGY AND THE ROLE OF GEOSCIENCES: A NORTH AMERICAN PERSPECTIVE.

TINKER, Scott W., Geosciences, Bureau of Economic Geology, P.O. Box X, University Station, Austin, TX 78713, scott.tinker@beg.utexas.edu and LYNCH, Harry, 1905 N. Lamar Suite 103, Austin, TX 78705

Session No. 66

Special Session: A Life in Earth History from Tectonics to Climate II: The Scientific Legacy of Paul F. Hoffman

Sunday, 27 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Mile High Ballroom 4EF

Paper No. 66-8

Presentation Time: 3:40 PM

CAMBRIAN TRANSGRESSION AND 'EXPLOSION' OF METAZOAN LIFE LINKED TO OPENING OF IAPETUS-PACIFIC OCEANIC CONNECTION

DALZIEL, Ian W.D., Institute for Geophysics, Jackson School of Geosciences, University of Texas at Austin, 10100 Burnet Road (R2200), Austin, TX 78758-4445, ian@ig.utexas.edu

Session No. 68

T21. Peaks to Plains: Late Cenozoic Landscape Evolution of the Rocky Mountains and Western Great Plains

Sunday, 27 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Mile High Ballroom 3C

Paper No. 68-1

Presentation Time: 1:05 PM

INSIGHTS INTO CENOZOIC LANDSCAPE EVOLUTION OF THE ROCKY MOUNTAIN-HIGH PLAINS REGION BASED ON THERMOCHRONOMETRIC DATA FROM SOUTHWESTERN COLORADO

KELLEY, Shari A., New Mexico Bureau of Geology and Mineral Resources, New MexicoTech, 801 Leroy Place, Socorro, NM 87801, sakelley@gis.nmt.edu, CATHER, Steven M., New Mexico Bureau of Geology and Mineral Resources, New Mexico Tech, 801 Leroy Pl, Socorro, NM 87801, CHAPIN, Charles E., New Mexico Bureau of Geology, New Mexico Institute of Mining and Technology, Socorro, NM 87801, GARCIA, Rebecca V., Earth and Environmental

Science, New Mexico Institute of Mining and Technology, Socorro, NM 87801, FELDMAN, Josh, Geology, University of Kansas, 2335 Irving Hill Rd, Rm. 357, Lawrence, KS 66045, KARLSTROM, Karl E., Department of Earth and Planetary Sciences, University of New Mexico, Albuquerque, NM 87131, and STOCKLI, Daniel F., Department of Geological Sciences, University of Texas at Austin, Austin, TX 78712

Session No. 70

T47. Founders or Leaders in Hydrogeology
 Sunday, 27 October 2013: 1:00 PM-5:00 PM
 Colorado Convention Center Room 207
 Paper No. 70-9

Presentation Time: 3:00 PM

HENRY DARCY'S CONTRIBUTION TO HYDROGEOLOGY

BOBECK, Patricia, Jackson School of Geosciences, University of Texas, Austin, TX 78712, pbobeck@me.com

Session No. 79

T138. Undergraduate Research Talks: The Next Step in Student Research Projects
 Sunday, 27 October 2013: 1:00 PM-5:00 PM
 Colorado Convention Center Room 405
 Paper No. 79-4

Presentation Time: 1:45 PM

EVIDENCE FOR THE DISSOLUTION OF LIMESTONE TILES IN THE SHORT TERM

STURROCK, Colin, Jackson School of Geosciences, University of Texas at Austin, Austin, TX 78705, colinsturrock@gmail.com and CATLOS, Elizabeth J., Geological Sciences, University of Texas at Austin, Jackson School of Geosciences, Austin, TX 78712

Session No. 84

T184. Recent Advances in Thermochronology
 Sunday, 27 October 2013: 1:00 PM-5:00 PM
 Colorado Convention Center Room 505
 Paper No. 84-14

Presentation Time: 4:30 PM

THERMAL HISTORIES FROM THERMOCHRONOLOGY: WHERE DO WE STAND?

ZEITLER, Peter¹, KETCHAM, Richard A.², REINERS, Peter W.³, SCHMIDT, Jennifer L.¹, and SHUSTER, David⁴, (1) Earth & Environmental Sciences, Lehigh University, 1 West Packer Avenue, Bethlehem, PA 18015, peter.zeitler@lehigh.edu, (2) Dept. of Geological Sciences, Jackson School of Geosciences, The University of Texas, Austin, TX 78712, (3) Department of Geosciences, University of Arizona, Tucson, AZ 85721, (4) Department of Earth and Planetary Science, 479 McCone Hall, University of California, Berkeley, CA 94720

Session No. 84

T184. Recent Advances in Thermochronology
 Sunday, 27 October 2013: 1:00 PM-5:00 PM
 Colorado Convention Center Room 505
 Paper No. 84-4

Presentation Time: 1:50 PM

**THERMOCHRONOLOGIC CONSTRAINTS ON TRANSPRESSIONAL EXHUMATION,
CENTRAL RANGE FAULT ZONE, TRINIDAD**

GIORGIS, Scott¹, WEBER, John², BENO, Carl³, METCALF, James R.⁴, FLOWERS, Rebecca M.⁵, SANGUINITO, Sean⁶, and OLIVER, Michael¹, (1) Geological Sciences, SUNY Geneseo, 1 College Circle, Geneseo, NY 14454, USA USA, giorgis@geneseo.edu, (2) Geology, Grand Valley State University, 1 Campus Drive, PAD 118, Allendale, MI 49401, (3) Geological Sciences, SUNY Geneseo, 1 College Circle, Geneseo, NY 14414, (4) Department of Geological Sciences, University of Colorado, UCB 399, 2200 Colorado Ave, Boulder, CO 80309, (5) Department of Geological Sciences, University of Colorado, Campus Box 399, 2200 Colorado Ave, Boulder, CO 80309, (6) Department of Geological Sciences, The University of Texas at Austin, 2275 Speedway Stop C9000, Austin, TX 78712 – 1722

Session No. 84

T184. Recent Advances in Thermochronology

Sunday, 27 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 505

Paper No. 84-1

Presentation Time: 1:00 PM

A NEW MODEL FOR DECIPHERING ZIRCON (U-TH)/HE DATES FROM RADIATION DAMAGED CRYSTALS

GUENTHNER, William R., Department of Geology, University of Illinois, Urbana-Champaign, 152 Computer Applications Bldg, 605 E. Springfield Ave, Champaign, IL 61820, wrg@illinois.edu, REINERS, Peter W., Department of Geosciences, University of Arizona, 1040 E. 4th St, Tucson, AZ 85721, KETCHAM, Richard A., Dept. of Geological Sciences, Jackson School of Geosciences, The University of Texas, Austin, TX 78712, NASDALA, Lutz, Institute of Mineralogy and Crystallography, University of Vienna, Althanstr. 14, Wien, A-1090, Austria, and GIESTER, Gerald, Institute for Mineralogy and Crystallography, University of Vienna, Althanstrasse 14, Vienna, 1090, Austria

Session No. 84

T184. Recent Advances in Thermochronology

Sunday, 27 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 505

Paper No. 84-3

Presentation Time: 1:35 PM

DETRITAL ZIRCON (U-TH)/HE ANALYSIS OF THE LARAMIDE MACKENZIE MOUNTAINS, NWT, CANADA

POWELL, Jeremy W.1, SCHNEIDER, D.A.1, and STOCKLI, Daniel F.2, (1) Earth Sciences, University of Ottawa, Ottawa, ON K1N 6N5, Canada, jpowe068@uottawa.ca, (2) Geological Sciences, University of Texas at Austin, Austin, TX 78712

Session No. 85

T203. Evolving Understanding of Extensional Provinces: Advancements and Challenges

Sunday, 27 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 507

Paper No. 85-2

Presentation Time: 1:25 PM

TIMING, RATE, AND MAGNITUDE OF SLIP ON THE BUCKSKIN-RAWHIDE DETACHMENT FAULT, WEST-CENTRAL ARIZONA

SINGLETON, John, Atmospheric, Oceanic, and Earth Sciences, George Mason University, 4400 University Drive, Mail Stop 5F2, Fairfax, VA 22030, jsing@gmu.edu and STOCKLI, Daniel F., Department of Geological Sciences, University of Texas at Austin, Austin, TX 78712

Monday, Oct. 28

Session No. 92

Clastic Sediments: Precambrian to Recent, Experimental to Applied Studies

Monday, 28 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 504

Paper No. 92-11

Presentation Time: 11:15 AM

SCANNING ELECTRON MICROSCOPE OBSERVATIONS OF THE NATURE OF PORE-CONTAINING ORGANIC MATTER IN THERMALLY MATURE MUDROCKS

REED, Robert M., Bureau of Economic Geology, John A. and Katherine G. Jackson School of Geosciences, The Univ of Texas at Austin, Box X, University Station, Austin, TX 78713-8924, rob@alumni.utexas.net and LOUCKS, Robert G., Bureau of Economic Geology, The University of Texas at Austin, Box X, University Station, Austin, TX 78713

Session No. 92

Clastic Sediments: Precambrian to Recent, Experimental to Applied Studies

Monday, 28 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 504

Paper No. 92-12

Presentation Time: 11:30 AM

“VOID SPACE” MADE REAL: IMAGING PORES IN SEDIMENTARY ROCKS

MILLIKEN, Kitty, Bureau of Economic Geology, The University of Texas at Austin, Austin, TX 78713, kittym@utexas.edu

Session No. 103

T40. Applications and Developments of Coupled Hydrologic Models

Monday, 28 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 301

Paper No. 103-11

Presentation Time: 10:45 AM

THE EDWARDS AQUIFER – EVOLVING CONCEPTUAL MODELS

SHARP, John M. Jr, Dept. of Geological Sciences, Jackson School of Geosciences, The University of Texas, Austin, TX 78712, jmsharp@jsg.utexas.edu and HAUWERT, Nico M., Watershed Protection Department, City of Austin, Austin, TX 78767

Session No. 104

T54. Remote Sensing of the Cryosphere—Building on the Legacy of Austin Post

Monday, 28 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 205

Paper No. 104-3

Presentation Time: 8:40 AM

USING A FLOW EQUATION TO EXPLAIN ROCK GLACIER DEFORMATION: A NEW APPROACH

IRHAM, Muhammad, High Alpine and Arctic Research Program (HAARP), Department Geology and Geophysics, Texas A&M University, College Station, TX 77840, irham@tamu.edu

and GIARDINO, John R., High Alpine and Arctic Research Program (HAARP), Department of Geology and Geophysics and Water Management and Hydrological Sci, Texas A&M University, College Station, TX 77843-3115

Session No. 111

T121. Educating the Next Generation of Geoscientists: Effective Strategies That Engage Students, Invest in the Future Geoscience Workforce, and Increase Participation of Members of Historically Underrepresented Communities in the Geosciences

Monday, 28 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 403

Paper No. 111-7

Presentation Time: 9:35 AM

EFFECTIVE OUTREACH TO ACHIEVE COLLEGE SUCCESS IN STEM FIELDS:
GEOFORCE TEXAS

SNOW, Eleanor, Jackson School of Geosciences, University of Texas, Austin, 10100 Burnet Rd, BLDG 196, R2200, Austin, TX 78758-4445, esnow@jsg.utexas.edu

Session No. 156

Extinctions and Diversity Dynamics

Monday, 28 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Mile High Ballroom 1CD

Paper No. 156-7

Presentation Time: 2:30 PM

CHEMOSTRATIGRAPHY OF THE FURONGIAN (UPPER CAMBRIAN) DEPOSITS OF
THE SINO-KOREAN CRATON: INSIGHTS ON GLOBAL CORRELATION AND
TRILOBITE EXTINCTIONS

MCKENZIE, N. Ryan¹, GILL, Benjamin C.², CHEN, Jitao³, PARK, Tae-yoon⁴, MYROW, Paul M.⁵, WOO, Jusun⁴, HUGHES, Nigel C.⁶, and CHOI, Duck K.⁷, (1) Department of Geological Sciences, University of Texas at Austin, Austin, TX 78752, rmckenzie@jsg.utexas.edu, (2) Department of Geosciences, Virginia Polytechnic Institute & University, Blacksburg, VA 24061, (3) Nanjing Institute of Geology and Paleontology, Chinese Academy of Sciences, 39 E Beijing Road, Nanjing, 210008, China, (4) Division of Polar Earth-System Sciences, Korea Polar Research Institute, Incheon, 406-840, South Korea, (5) Department of Geology, Colorado College, Colorado Springs, CO 80903, (6) Department of Earth Sciences, University of California, Riverside, CA 92521, (7) School of Earth and Environmental Sciences, Seoul National University, San 56-1, Sillim-dong, Gwanak-gu, Seoul, 151-742, South Korea

Session No. 166

T25. Deserts: Quaternary Hydro-Geomorphic, Climatic, and Environmental Changes in the World's Deserts: Honoring Prof. Farouk El-Baz

Monday, 28 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Mile High Ballroom 3C

Paper No. 166-5

Presentation Time: 2:15 PM

DESERT PAVEMENT PROCESSES AND FORM: INFLUENCES ON HYDROLOGIC PROCESSES AND LONG-TERM LANDSCAPE EVOLUTION IN ARID REGIONS

WELLS, Stephen G., Desert Research Institute, President, 2215 Raggio Parkway, Reno, NV 89512-1095, Stephen.Wells@dri.edu, MCFADDEN, Leslie D., University of New Mexico, Earth and Planetary Sciences, Northrup 216, MSC03 2040, Albuquerque, NM 87131, MCDONALD, Eric V., Division of Earth & Ecosystem Sciences, Desert Research Institute, 2215 Raggio Parkway, Reno, NV 89512, EPPES, Martha C., Department of Geography & Earth Sciences, University of North Carolina at Charlotte, 9201 University City Boulevard, Charlotte, NC 28223, YOUNG, Michael H., University of Texas at Austin, John A. and Katherine G. Jackson School of Geosciences, University Station, Box X, Austin, TX 78712-8924, and WOOD, Yvonne A., University of California, Retired, 2665 Highland Drive, Bishop, CA 93514

Session No. 168

T36. Impacts of Land-Use Change and Disturbances on Unsaturated-Zone Ecohydrology and Process Characterization

Monday, 28 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 301

Paper No. 168-10

Presentation Time: 3:55 PM

TRANSITIONARY BIOMES AND THE VERTICAL FLUX OF WATER IN SEMIARID RANGELANDS

CALDWELL, Todd G., Jackson School of Geosciences, University of Texas at Austin, Bureau of Economic Geology, University Station, Box X, Austin, TX 78758, todd.caldwell@beg.utexas.edu, YOUNG, Michael H., Bureau of Economic Geology, University of Texas at Austin, University Station, Box X, Austin, TX 78712, and WILCOX, Bradford Paul, Ecosystem Science and Management, Texas A&M University, College Station, TX 77843

Session No. 171

T62. The Epikarst as a Boundary and Critical Zone

Monday, 28 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 502 Paper No. 171-6

Presentation Time: 2:40 PM

VEGETATION AND CLIMATE SIGNALS IN THE CARBON ISOTOPE COMPOSITIONS OF SPELEOTHEM CALCITE

BREECKER, Dan O., MEYER, Kyle, FENG, Weimin, BANNER, Jay L., and CARLSON, Peter E., Department of Geological Sciences, The University of Texas at Austin, Austin, TX 78712, breecker@jsg.utexas.edu

Session No. 173

T99. Sediment-Hosted Base Metal Deposits

Monday, 28 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 401

Paper No. 173-2

Presentation Time: 1:25 PM

FORMATION OF BASE METAL AND SILVER SULFIDE OCCURRENCES IN GULF COAST SALT DOME CAP ROCKS FROM FORMATION FLUIDS

SAUNDERS, James, Geology and Geography, Auburn University, 210 Petrie Hall, Auburn, AL 36849, saundja@auburn.edu, KYLE, J. Richard, Department of Geological Sciences, The University of Texas at Austin, Jackson School of Geosciences, 1 University Station, C1100, Austin, TX 78712, and REED, Mark, Geological Sciences, University of Oregon, Eugene, OR 97403

Session No. 173

T99. Sediment-Hosted Base Metal Deposits

Monday, 28 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 401

Paper No. 173-13

Presentation Time: 4:15 PM

ROLE OF STRATIGRAPHIC INHERITANCE IN CONTROLLING STRATABOUND BASE METAL CONCENTRATIONS IN CARBONATE STRATA: MVT TO SKARN SYSTEMS

KYLE, J. Richard, Department of Geological Sciences, Jackson School of Geosciences, University of Texas at Austin, Austin, TX 78712, rkyle@jsg.utexas.edu

Session No. 176

T120. Dual-Credit Classes and Other Collaborative Strategies for Recruiting High School Students into College Geoscience Programs

Monday, 28 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 403

Paper No. 176-1

Presentation Time: 1:05 PM

ON THE CHALLENGES OF IMPLEMENTING A CAPSTONE GEOLOGY COURSE IN TEXAS HIGH SCHOOLS

SNOW, Eleanour, Jackson School of Geosciences, University of Texas, Austin, 10100 Burnet Rd, BLDG 196, R2200, Austin, TX 78758-4445, esnow@jsg.utexas.edu, ELLINS, Katherine K., Institute for Geophysics, Jackson School of Geosciences, The University of Texas at Austin, 10100 Burnet Rd., Bldg. 196, Austin, TX 78758, and RIGGS, Eric M., College of Geosciences, Texas A&M University, Room 202, Eller O&M Building, MS 3148 TAMU, College Station, TX 77843

Session No. 182

T205. From Extension to Rift to Drift: Geological, Geophysical, and Geodynamic Perspectives

Monday, 28 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 507

Paper No. 182-9

Presentation Time: 3:30 PM

THE EFFECT OF CRUSTAL THICKNESS AND LITHOSPHERIC RHEOLOGY ON THE WIDTH AND SUBSIDENCE HISTORY OF RIFTED MARGINS

SVARTMAN DIAS, Anna Eliza, E&P-EXP/PETROBRAS and Institute for Geophysics - Jackson School of Geosciences, University of Texas at Austin, Pickle Research Campus, 10100 Burnet Rd., Bldg 196, Austin, TX 78758-4445, annasvartman@gmail.com, LAVIER, Luc L., Institute for Geophysics- Jackson School of Geosciences, University of Texas at Austin, Pickle Research

Campus, 10100 Burnet Rd. (Bldg 196), Austin, TX 78758-4445, and HAYMAN, Nicholas W., Institute for Geophysics, University of Texas, 10100 Burnet Rd, Bldg 196, Austin, TX 78758

Session No. 182

T205. From Extension to Rift to Drift: Geological, Geophysical, and Geodynamic Perspectives
Monday, 28 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 507

Paper No. 182-2

Presentation Time: 1:25 PM

CONSTRICION AND PLIOCENE ACCELERATION OF EAST-WEST EXTENSION IN THE NORTH LUNGGAR RIFT REGION OF WEST-CENTRAL TIBET

SUNDELL, Kurt E., Department of Earth and Atmospheric Sciences, University of Houston, 312 Science & Research Building 1, Rm. 312, Houston, TX 77204, kurtsundell@gmail.com, TAYLOR, Michael H., Department of Geology, University of Kansas, 1475 Jayhawk Blvd, Lawrence, KS 66045, STYRON, Richard H., Department of Earth and Environmental Sciences, University of Michigan, 2534 C.C. Little Building, 1100 North University Ave, Ann Arbor, MI 48109, STOCKLI, Daniel F., Department of Geological Sciences, University of Texas at Austin, Austin, TX 78712, KAPP, Paul, Department of Geosciences, University of Arizona, Gould-Simpson Building #77, 1040 E 4th St, Tucson, AZ 85721, LIU, Deliang, Institute of Tibetan Plateau Research, Chinese Academy of Sciences, 18 Shuang Qing Rd, P.O. Box 2871, Beijing, 100085, China, and DING, Lin, Institute of Tibetan Plateau Research, Chinese Academy of Sciences, Beijing, 100029

Session No. 183

T209. Structural Geology and Geomechanics in the Petroleum Industry

Monday, 28 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 506

Paper No. 183-11,

Presentation Time: 3:45 PM

FAULT DAMAGE ZONE AND CORE FRACTURE POROSITY DIFFERS IN ADJACENT SANDSTONES OWING TO INHIBITED QUARTZ ACCUMULATION ON FELDSPAR AND LITHIC GRAIN SUBSTRATES

LAUBACH, Stephen E., Bureau of Economic Geology, Jackson School of Geosciences, The University of Texas at Austin, University Station, P.O. Box X, Austin, TX 78713-8924, steve.laubach@beg.utexas.edu

Session No. 183

T209. Structural Geology and Geomechanics in the Petroleum Industry

Monday, 28 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 506

Paper No. 183-9

Presentation Time: 3:15 PM

NATURAL HYDRAULIC FRACTURING OF TIGHT-GAS SANDSTONE RESERVOIRS, PICEANCE BASIN, COLORADO.

EICHHUBL, Peter¹, FALL, András², LAUBACH, Stephen E.², BODNAR, Robert J.³, and DAVIS, J. Steve⁴, (1) Bureau of Economic Geology, The University of Texas at Austin, 10100

Burnet Road, Austin, TX 78758, peter.eichhubl@beg.utexas.edu, (2) Bureau of Economic Geology, Jackson School of Geosciences, The University of Texas at Austin, University Station, P.O. Box X, Austin, TX 78713-8924, (3) Department of Geosciences, Virginia Tech, 4044 Derring Hall, Blacksburg, VA 24061, (4) ExxonMobil Upstream Research Company, P.O. Box 2189, Houston, TX 77252

Tuesday, Oct. 29

Session No. 190

Advances in Igneous Petrology

Tuesday, 29 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 501

Paper No. 190-8

Presentation Time: 10:00 AM

MAGMATIC EVOLUTION OF THE EARLY TERTIARY RHYOLITE AND ASSOCIATED INTRUSIVE ROCKS OF SIERRA BLANCA AND ROUND TOP IN THE TRANS-PECOS REGION OF TEXAS

ELLIOTT, Brent, The Bureau of Economic Geology, The University of Texas at Austin, University Station Box X, Austin, TX 78713, brent.elliott@beg.utexas.edu, O'NEILL, L. Christine, The Jackson School of Geoscience, The University of Texas at Austin, 105 W 38th 1/2 Street, Apt 203, Austin, TX 78751, and KYLE, J. Richard, Department of Geological Sciences, Jackson School of Geosciences, University of Texas at Austin, Austin, TX 78712

Session No. 194

Morphology and Phylogeny

Tuesday, 29 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Mile High Ballroom 1EF

Paper No. 194-12

Presentation Time: 11:15 AM

MULTIPLE CROSSOVERS BETWEEN MONOCYCLIC AND DICYCLIC CUP DESIGNS: EXPERIMENTATION AND PLASTICITY IN EARLY CRINOID PHYLOGENY

SPRINKLE, James, Department of Geological Sciences, Jackson School of Geosciences, University of Texas, 1 University Station C1100, Austin, TX 78712-0254, echino@jsg.utexas.edu and GUENSBURG, Thomas E., Sciences Division, Rock Valley College, 3301 North Mulford Road, Rockford, IL 61114

Session No. 198

Special Session: CRevolution 2: Cenozoic Landscape Evolution of the Colorado Plateau–Rocky Mountain Region and the Carving of Grand Canyon III

Tuesday, 29 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Mile High Ballroom 4CD

Paper No. 198-5

Presentation Time: 9:15 AM

LOW-TEMPERATURE THERMOCHRONOMETRIC CONSTRAINTS ON RETREAT OF THE VERMILLION CLIFFS AND CARVING OF MARBLE CANYON

WARNEKE, Nadine Lynne, Earth and Planetary Sciences, University of New Mexico, 221 Yale Blvd NE, Albuquerque, NM 87131-0001, nadine.warneke@gmail.com, LEE, John P., United States Geological Survey, MS 973, Denver, CO 80225, KELLEY, Shari A., New Mexico Bureau of Geology and Mineral Resources, New MexicoTech, 801 Leroy Place, Socorro, NM 87801, STOCKLI, Daniel F., Department of Geological Sciences, University of Texas at Austin, Austin, TX 78712, KARLSTROM, Karl E., Department of Earth and Planetary Sciences, University of

New Mexico, Albuquerque, NM 87131, and FOX, Matthew, Berkeley Geochronology Center, 2455 Ridge Road, Berkeley, CA 94709

Session No. 208

T115. Climate Literacy: Formal and Informal Education and Community Outreach Efforts to Enable Responsible Decisions I

Tuesday, 29 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 405

Paper No. 208-6 EARTHLABS: SUPPORTING TEACHER PROFESSIONAL DEVELOPMENT TO FACILITATE EFFECTIVE TEACHING OF CLIMATE SCIENCE

Presentation Time: 9:20 AM

EARTHLABS: SUPPORTING TEACHER PROFESSIONAL DEVELOPMENT TO FACILITATE EFFECTIVE TEACHING OF CLIMATE SCIENCE

ELLINS, Katherine K.¹, LEDLEY, Tamara², HADDAD, Nick², MCNEAL, Karen S.³, GOLD, Anne⁴, LYNDY, Susan⁵, LIBARKIN, Julie⁶, QUARTINI, Enrica¹, THIRUMALAI, Kaustubh¹, and CAVITTE, Marie¹, (1) Institute for Geophysics, Jackson School of Geosciences, The University of Texas at Austin, 10100 Burnet Rd., Bldg. 196, Austin, TX 78758, kellins@ig.utexas.edu, (2) TERC, 2067 Massachusetts Ave, Cambridge, MA 02140, (3) Marine, Earth and Atmospheric Sciences, North Carolina State University, Raleigh, NC 27695, (4) Cooperative Institute of Research in Environmental Sciences (CIRES), University of Colorado, Boulder, CO 80303, (5) Cooperative Institute for Research in Environmental Sciences, University of Colorado, UCB 449, Boulder, CO 80309-0449, (6) Geocognition Research Laboratory, Michigan State University, Department of Geological Sciences, 288 Farm Lane, 206 Natural Science, East Lansing, MI 48824

Session No. 214

T188. Tethyan Evolution and Seismotectonics of Southwest Asia: In Honor of the 40 Years of Manuel Berberian's Research Contributions I

Tuesday, 29 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 505

Paper No. 214-9

Presentation Time: 10:30 AM

THE EOCENE GOLPAYGAN METAMORPHIC CORE COMPLEX, CENTRAL IRAN: A CASE HISTORY OF OROGEN-PARALLEL FOREARC RIFTING ALONG AN ANDEAN-TYPE CONTINENTAL MARGIN

VERDEL, Charlie¹, HASSANZADEH, Jamshid², WERNICKE, Brian P.², and STOCKLI, Daniel F.³, (1) School of Earth Sciences, The University of Queensland, St Lucia, Brisbane, QLD 4072, Australia, c.verdel@uq.edu.au, (2) Division of Geological and Planetary Sciences, California Institute of Technology, Mail Stop 100-23, Pasadena, CA 91125, (3) Department of Geological Sciences, University of Texas at Austin, Austin, TX 78712

Session No. 216

T211. The Rock Record of Fault Rheology and Slip Dynamics I

Tuesday, 29 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 506

Paper No. 216-2

Presentation Time: 8:15 AM

THE IMPACT OF SEMI-BRITTLE MATERIAL ON FAULT BEHAVIOR

REBER, Jacqueline E., Jackson School of Geoscience, UTIG, 10100 Burnet Rd, Austin, TX 78758-4445, reber@ig.utexas.edu, HAYMAN, Nicholas W., Institute for Geophysics, University of Texas, 10100 Burnet Rd, Bldg 196, Austin, TX 78758, and LAVIER, Luc L., Institute for Geophysics- Jackson School of Geosciences, University of Texas at Austin, Pickle Research Campus, 10100 Burnet Rd. (Bldg 196), Austin, TX 78758-4445

Session No. 216

T211. The Rock Record of Fault Rheology and Slip Dynamics I

Tuesday, 29 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 506

Paper No. 216-3

Presentation Time: 8:30 AM

RECONCILING GEOLOGIC OBSERVATIONS WITH MODELS AND EXPERIMENTS FOR SLIP AND CREEP

HAYMAN, Nicholas W., Institute for Geophysics, University of Texas, 10100 Burnet Rd, Bldg 196, Austin, TX 78758, hayman@ig.utexas.edu and LAVIER, Luc L., Institute for Geophysics- Jackson School of Geosciences, University of Texas at Austin, Pickle Research Campus, 10100 Burnet Rd. (Bldg 196), Austin, TX 78758-4445

Session No. 217

T212. The Role of Tectonic Inheritance in Continental Extension

Tuesday, 29 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 507

Paper No. 217-10

Presentation Time: 10:50 AM

MESOZOIC ANCESTRY OF THE FUNERAL MOUNTAINS METAMORPHIC CORE COMPLEX: INFLUENCE OF THRUST BURIAL AND INCLINED RHEOLOGICAL LAYERING ON POLYPHASE MESOZOIC AND CENOZOIC EXTENSIONAL REACTIVATION

WELLS, Michael, Department of Geoscience, University of Nevada, Las Vegas, NV 89154-4010, michael.wells@unlv.edu, BEYENE, Mengesha A., Federal Highway Administration, 2 Turner Fairbank Highway Research Center, McLean, VA 22101, HOISCH, Thomas D., School of Earth Sciences and Environmental Sustainability, Northern Arizona University, Flagstaff, AZ 86011, SPELL, Terry L., Department of Geoscience, University of Nevada Las Vegas, 4505 Maryland Parkway, Las Vegas, NV 89154, STOCKLI, Daniel F., Department of Geological Sciences, University of Texas at Austin, Austin, TX 78712, and VERVOORT, Jeff, School of the Environment, Washington State University, Pullman, WA 99164

GSA-Related RMS-SEPM Luncheon Lecture:

Predicting Size and Why it Matters: A Structural Diagenesis Approach to Fracture Prediction

Speaker: Steve Laubach, Texas Bureau of Economic Geology

Tuesday, October 29th, 2013 - 11:30 Reception, 11:45 Lunch, 12:15 Talk commences

Location: Wynkoop Brewing Company

1634 18th St., Denver, CO

Session No. 274

Special Session: Cutting Edge Applied Geoscience in Exploration: The Best of AAPG II

Tuesday, 29 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Mile High Ballroom 1EF

Paper No. 274-2

Presentation Time: 1:30 PM

HALOKINETIC DRAPE-FOLD MODEL FOR CAPROCK IN DIAPIR-FLANKING AND SUBSALT POSITIONS

GILES, Katherine, Geology, University of Texas at El Paso, 500 West University Ave, El Paso, TX 79968, kagiles@utep.edu, LAWTON, Timothy L., Geological Sciences, Universidad Nacional Autónoma de México, P.O. Box 30001, Las Cruces, NM 88003, SHOCK, Austin L., Occidental Petroleum Corporation, 100 E. Boyd Street, Norman, OK 73019, KERNEN, Rachelle K., Shell Oil Company, Box 30001, MSC 3AB, Las Cruces, NM 88003, HEARON, Thomas E. IV, Department of Geology and Geological Engineering, Colorado School of Mines, 1516 Illinois Street, Golden, CO 80401, and ROWAN, Mark G., Rowan Consulting Inc, 850 8th St, Boulder, CO 80302

Session No. 275

T6. Landscape Evolution on the Terrestrial Planets: The G.K. Gilbert Award Session

Tuesday, 29 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 201

Paper No. 275-7

Presentation Time: 2:45 PM

THE ROLE OF AEOLIAN PROCESSES IN THE EVOLUTION OF PLANUM BOREUM, MARS

HOLT, John W.¹, SMITH, Isaac B.¹, BROTHERS, T. Charles¹, and SPIGA, Aymeric², (1) Institute for Geophysics, Jackson School of Geosciences, University of Texas at Austin, J.J. Pickle Research Campus, Bldg. 196, 10100 Burnet Road, Austin, TX 78758-4445, jack@utig.ig.utexas.edu, (2) Laboratoire de Meteorologie Dynamique, Universite Pierre et Marie Curie, 4 place Jussieu, LMD Boîte postale 99, Paris, 75252, France

Session No. 288

T168. Urban Geochemistry

Tuesday, 29 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 503

Paper No. 288-13

Presentation Time: 4:20 PM

GEOCHEMICAL INDICATORS OF MUNICIPAL WATER INFLUX INTO STREAMWATER IN THE BULL CREEK WATERSHED, AUSTIN, TX

SENISON, Jeffrey J.¹, BANNER, Jay¹, REYES, Daniel¹, and BENDIK, Nathan², (1) Jackson School of Geosciences, University of Texas at Austin, 1 University Station C1100, Austin, TX 78712, jeff.senison@utexas.edu, (2) City of Austin, Watershed Protection Department, Austin, TX 78704

Session No. 293

T208. Hinterland, Retroarc Fold- Thrust Belt, and Foreland Systems

Tuesday, 29 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 507

Paper No. 293-2

Presentation Time: 1:30 PM

THE APPLICATION OF ZIRCON (U-TH)/HE THERMOCHRONOLOGY TO DETERMINE THE TIMING AND SLIP RATE ON THE WILLARD THRUST, SEVIER FOLD AND THRUST BELT, NORTHERN UTAH

ELEOGRAM, Bryan¹, YONKEE, Adolph², WELLS, Michael L.¹, STOCKLI, Daniel F.³, GENTRY, Amanda², and GIALLORENZO, Michael A.¹, (1) Department of Geosciences, University of Nevada Las Vegas, 4505 South Maryland Parkway, Las Vegas, NV 89154-4010, eleogram@unlv.nevada.edu, (2) Department of Geosciences, Weber State University, 2507 University Circle, Ogden, UT 84408, (3) Department of Geological Sciences, University of Texas at Austin, Austin, TX 78712

Session No. 293

T208. Hinterland, Retroarc Fold- Thrust Belt, and Foreland Systems

Tuesday, 29 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 507

Paper No. 293-12

Presentation Time: 4:15 PM

IMPROVED AGE CONTROL AND INITIAL DETRITAL ZIRCON PROVENANCE FOR THE CENTRAL ANDEAN FORELAND BASIN SYSTEM OF SOUTHERN BOLIVIA

HORTON, Brian K. and CALLE, Amanda Z., Institute for Geophysics and Department of Geological Sciences, Jackson School of the Geosciences, University of Texas at Austin, Austin, TX 78712, horton@jsg.utexas.edu

Session No. 293

T208. Hinterland, Retroarc Fold- Thrust Belt, and Foreland Systems

Tuesday, 29 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 507

Paper No. 293-13

Presentation Time: 4:30 PM

ANDEAN INVERSION OF A PERMO-TRIASSIC RIFT SYSTEM IN SOUTHERN PERU: IMPLICATIONS FOR CENOZOIC SHORTENING, FLEXURE, AND DEFORMATION ADVANCE

PEREZ, Nicholas D.¹, HORTON, Brian K.¹, EHLERS, Todd A.², and MCQUARRIE, Nadine³, (1) Institute for Geophysics and Department of Geological Sciences, Jackson School of Geosciences, University of Texas at Austin, Austin, TX 78712, nicholas.d.perez@gmail.com, (2) Department of Geosciences, University of Tuebingen, Wilhelmstrasse 56, Tuebingen, 72074, Germany, (3) Department of Geology and Planetary Science, University of Pittsburgh, Pittsburgh, PA 15206

Wednesday, Oct. 30

Session No. 305

T12. Voyager to New Horizons and Beyond: Exploring the Icy Worlds of the Outer Solar System

Wednesday, 30 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 201

Paper No. 305-11

Presentation Time: 10:40 AM

A SHALLOW SUBSURFACE HYDROLOGIC SYSTEM ON EUROPA?

SCHMIDT, Britney Elyce, School of Earth & Atmospheric Sciences, Georgia Institute of Technology, 311 Ferst Drive, Atlanta, GA 30332, britney.schmidt@eas.gatech.edu, GOOCH, Brad, Jackson School of Geosciences, University of Texas at Austin, Austin, TX 78758, PATTERSON, G. Wesley, Johns Hopkins University Applied Physics Laboratory, 200-W238, 11101 Johns Hopkins Rd, Laurel, MD 20723, and BLANKENSHIP, D.D., Institute for Geophysics, University of Texas at Austin, 10100 Burnett Rd, Austin, TX 78758

Session No. 314

T91. Geological and Geomorphological Applications of Digital Terrain Analysis

Wednesday, 30 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 502

Paper No. 314-3

Presentation Time: 8:45 AM

THE ANALYSIS OF GEOMORPHIC FEATURES IN THE DIGITAL TERRAIN ERA

PASSALACQUA, Paola¹, SANGIREDDY, Harish¹, and STARK, Colin², (1) Civil, Architectural and Environmental Engineering, The University of Texas at Austin, 1 University Station C1786, Austin, TX 78712-0276, paola@austin.utexas.edu, (2) Lamont-Doherty Earth Observatory, Earth Institute at Columbia University, Palisades, NY 10964-8000

Session No. 316

T112. Use of Seismic Models in Non-Seismology Studies

Wednesday, 30 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 304

Paper No. 316-7

Presentation Time: 9:50 AM

IMPACT OF BUOYANT MANTLE UPWELLINGS ON THE SURFACE EVOLUTION OF NORTH AMERICA: IMPLICATIONS FOR TOPOGRAPHY CHANGES IN THE SOUTHWESTERN AND EASTERN U.S

FORTE, Alessandro, Geotop, Université du Québec à Montréal, Département des Sciences de la Terre et de l'Atmosphère, CP 8888, Succursale Centre-ville, Montreal, QC H3C3P9, Canada, forte60@gmail.com, MOUCHA, Robert, Earth Sciences, Syracuse University, Syracuse, NY 13244, GLISOVIC, Petar, Geotop, Département des Sciences de la Terre et de l'Atmosphère, Université du Québec à Montréal, CP 8888, succursale Centre-Ville, Montreal, QC H3C 3P8, Canada, ROWLEY, David B., Department of the Geophysical Sciences, The University of Chicago, 5734 S. Ellis Avenue, Chicago, IL 60637, MITROVICA, Jerry X., Department of Earth and Planetary Sciences, Harvard University, 20 Oxford Street, Cambridge, MA 02138,

SIMMONS, Nathan A., Atmospheric, Earth, and Energy Division, Lawrence Livermore National Laboratory, Livermore, CA 94550-9234, and GRAND, Stephen P., Department of Geological Sciences, University of Texas at Austin, 1 University Station C1100, Austin, TX 78712

Session No. 328

T240. Advances in the Application of Biogeochemical Datasets in Paleoenvironmental and Paleoecological Studies

Wednesday, 30 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Mile High Ballroom 1AB

Paper No. 328-7

Presentation Time: 10:05 AM

NEW $\delta^{13}C$ DATA FROM THE LATE OLIGOCENE OF THE CHILGA, ETHIOPIA, EVIDENCE FOR A CLOSED-CANOPY TROPICAL FOREST

NORET, Jordan R., Huffington Department of Earth Sciences, Southern Methodist University, 3225 Daniel Ave, Dallas, TX 75275-0395, jnoret@smu.edu, TABOR, Neil J., Roy M.

Huffington Department of Earth Sciences, Southern Methodist University, Dallas, TX 75275-0395, JACOBS, Bonnie F., Roy M. Huffington Department of Earth Sciences, Southern

Methodist University, 3225 Daniel Avenue, Dallas, TX 75275, and KAPPELMAN, John W. Jr, Department of Anthropology, University of Texas, University Station, C3200, Austin, TX 78712

Session No. 330

T255. Produced Waters: Characterization and Impacts of Subsurface Brine and Formation Water Associated with Hydrocarbon Production

Wednesday, 30 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 406

Paper No. 330-8

Presentation Time: 10:05 AM

PRODUCED WATER ACCOUNTING AND CHARACTERISTICS: THE CASE OF HYDRAULIC FRACTURING IN TEXAS

NICOT, Jean-Philippe, Bureau of Economic Geology, The University of Texas at Austin, 10100 Burnet Rd, Bldg 130, Austin, TX 78758-4445, jp.nicot@beg.utexas.edu

Session No. 307

T22. Quantifying Mountain Evolution from the Lithosphere to the Landscape I

Wednesday, 30 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Mile High Ballroom 3C

Paper No. 307-2

Presentation Time: 8:30 AM

PALEOELEVATION HISTORY OF THE NORTHERNMOST ALTIPLANO PLATEAU: IMPLICATIONS FOR GEODYNAMIC EVOLUTION OF THE ANDES

KAR, Nandini, Earth and Environmental Sciences, University of Rochester, 227 Hutchison Hall, Rochester, NY 14627, nandini.kar@rochester.edu, GARZIONE, Carmala N., Department of

Earth and Environmental Sciences, University of Rochester, Rochester, NY 14627, CARLOTTO, Victor Santiago, Instituto Geológico, Minero y Metalúrgico INGEMMET, Av.

Canadá, 1470 San Borja, 1200 E. California Blvd, Lima, 41, Peru, SHANAHAN, Tim, Department of Geological Sciences, University of Texas at Austin, 1 University Station C1100,

Austin, TX 78712, ANDERSON, Veronica, Jackson School of Geosciences, University of Texas at Austin, 1 University Station C9000, Austin, TX 78712, PULLEN, Alex, Department of Geosciences, University of Arizona, Gould-Simpson Building #77, Tucson, AZ 85721, and EILER, John M., Division of Geology and Planetary Sciences, California Institute of Technology, MC 170-25, 1200 E. California Blvd, Pasadena, 91125

Session No. 320

T163. Pedogenic Minerals as Indicators of Ecosystems: Understanding the Critical Zone through Space and Time

Wednesday, 30 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 504

Paper No. 320-9

Presentation Time: 10:50 AM

INVESTIGATING EVAPORATION AND SOIL WATER MOVEMENT BY MEASURING THE STABLE ISOTOPE COMPOSITION OF WATER IN VERTISOLS

OKAFOR, Brandon¹, BREECKER, Dan O.², DRIESE, S.G.³, NORDT, Lee³, and WARDEN, John⁴, (1) Geology, The University of Texas at Austin, 4600 Elmout Dr, Austin, TX 78741, bokafor1208@gmail.com, (2) Department of Geological Sciences, The University of Texas at Austin, Austin, TX 78712, (3) Department of Geology, Baylor University, One Bear Place #97354, Waco, TX 76798-7354, (4) Department of Geological Sciences, University of Texas - Austin, 2275 Speedway Stop C9000, Austin, TX 78712 - 1722

Session No. 324

T195. Advances in Quantitative Sediment Provenance Research: Novel Approaches from Multi-Proxy Provenance Data to Provenance Modeling I

Wednesday, 30 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 402

Paper No. 324-11

Presentation Time: 11:00 AM

UNRAVELING THE TECTONOSTRATIGRAPHY OF A HP-LT METAMORPHIC BELT USING COMBINED DETRITAL ZIRCON U-PB AND TRACE ELEMENT ANALYSIS: AN EXAMPLE FROM THE CYCLADIC BLUESCHIST UNIT, CYCLADES, GREECE

SEMAN, Spencer¹, STOCKLI, Daniel F.², SOUKIS, Konstantinos³, SHIN, Timothy A.⁴, and HERNANDEZ-GOLDSTEIN, Emily⁴, (1) Jackson School of Geosciences, University of Texas at Austin, Austin, TX 78712, spencer.seman@utexas.edu, (2) Department of Geological Sciences, University of Texas at Austin, Austin, TX 78712, (3) Dept. of Geology and Geoenvironment, University of Athens, Athens, Greece, (4) Department of Geological Sciences, University of Texas at Austin, Jackson School of Geosciences, 1 University Station C9000, Austin, TX 78712

Session No. 324

T195. Advances in Quantitative Sediment Provenance Research: Novel Approaches from Multi-Proxy Provenance Data to Provenance Modeling I

Wednesday, 30 October 2013: 8:00 AM-12:00 PM

Colorado Convention Center Room 402

Paper No. 324-6

Presentation Time: 9:20 AM

UNLOCKING PROVENANCE SECRETS FROM SINGLE DETRITAL ZIRCONS BY U-PB AND TRACE-ELEMENT DEPTH-PROFILE LASER-ABLATION-SPLIT-STREAM ICP-MS ANALYSIS AND (U-TH)/HE DOUBLE DATING

STOCKLI, Daniel F., Department of Geological Sciences, University of Texas at Austin, Austin, TX 78712, stockli@jsg.utexas.edu and STOCKLI, Lisa D., Dept. of Geological Sciences, University of Texas at Austin, Jackson School of Geosciences, 1 University Station C9000, Austin, TX 78712-0254

Session No. 380

Paleontological Data: From Fieldwork to Databases

Wednesday, 30 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Mile High Ballroom 1EF

Paper No. 380-2

Presentation Time: 1:15 PM

CONNECTIONS: USING DIGITAL TECHNIQUES TO UNLOCK THE RESEARCH POTENTIAL OF COLLECTIONS

MOLINEUX, Ann, Non-vertebrate Paleontology Laboratory, Jackson School of Geosciences, The University of Texas at Austin, Austin, TX 78758, annm@austin.utexas.edu, BURROUGHES, Robert W., Jackson School of Geosciences, The University of Texas at Austin, Austin, TX 78705, and URBAN, Tomislav, Texas Advanced Computing Center, The University of Texas at Austin, Research Office Complex, Bldg 196, J.J.Pickle Research Campus, 10100 Burnet Rd, Austin, TX 78758-4497

Session No. 398

T157. Frontiers in Petrochronology

Wednesday, 30 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 503

Paper No. 398-10

Presentation Time: 3:45 PM

COMBINED RUTILE U-PB THERMOCHRONOLOGY AND TRACE ELEMENT SYSTEMATICS REVEALED BY LA-ICPMS DEPTH-PROFILING

SMYE, Andrew J., Department of Geological Sciences, University of Texas at Austin, Jackson School of Geosciences, 1 University Station C9000, Austin, TX 78712, andrew.smye@jsg.utexas.edu and STOCKLI, Daniel F., Department of Geological Sciences, University of Texas at Austin, Austin, TX 78712

Session No. 400

T186. STAMP: Structure, Tectonics, and Metamorphic Petrology II

Wednesday, 30 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 506

Paper No. 400-7

Presentation Time: 3:00 PM

SUBDUCTION CHANNELS AND THE INCORPORATION OF BLUESCHIST BLOCKS IN THE SHALE-MATRIX MELANGE OF THE FRANCISCAN COMPLEX OF CALIFORNIA

CLOOS, Mark, Dept. Geological Sciences, University of Texas at Austin, Austin, TX 78712, cloos@jsg.utexas.edu and UKAR, Estibalitz, Bureau of Economic Geology, University of Texas at Austin, Austin, TX 78713

Session No. 402

T195. Advances in Quantitative Sediment Provenance Research: Novel Approaches from Multi-Proxy Provenance Data to Provenance Modeling II

Wednesday, 30 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 402

Paper No. 402-2

Presentation Time: 1:20 PM

TECTONICALLY DRIVEN CHANGES IN PALEOTOPOGRAPHY AND DRAINAGE SYSTEM EVOLUTION IN THE CORDILLERAN HINTERLAND, WESTERN US

CASSEL, Elizabeth J.1, STOCKLI, Daniel F.1, HENRY, Christopher D.2, and BREECKER, Dan O.3, (1) Department of Geological Sciences, University of Texas at Austin, Austin, TX 78712, elizabeth.cassel@jsg.utexas.edu, (2) Nevada Bureau of Mines and Geology, University of Nevada, Reno, NV 89557, (3) Department of Geological Sciences, The University of Texas at Austin, Austin, TX 78712

Session No. 402

T195. Advances in Quantitative Sediment Provenance Research: Novel Approaches from Multi-Proxy Provenance Data to Provenance Modeling II

Wednesday, 30 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 402

Geological Society of America Abstracts with Programs. Vol. 45, No. 7, p.889

Paper No. 402-4

Presentation Time: 1:50 PM

CONSTRAINING BASEMENT UPLIFT IN THE NORTHERN ANDES USING DETRITAL ZIRCON PROVENANCE ANALYSIS: U-PB GEOCHRONOLOGICAL RECORD OF EXHUMATION OF THE GARZÓN MASSIF, COLOMBIA

ANDERSON, Veronica, Jackson School of Geosciences, University of Texas at Austin, 1 University Station C9000, Austin, TX 78712, v.anderson@utexas.edu, HORTON, Brian K., Institute for Geophysics and Department of Geological Sciences, University of Texas at Austin, Austin, TX 78712, and SAYLOR, Joel E., Department of Earth and Atmospheric Sciences, University of Houston, Houston, TX 77204

Session No. 402

T195. Advances in Quantitative Sediment Provenance Research: Novel Approaches from Multi-Proxy Provenance Data to Provenance Modeling II

Wednesday, 30 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 402

Paper No. 402-10

Presentation Time: 3:50 PM

PROTRACTED DEPOSITIONAL AND PROVENANCE RECORD OF CENOZOIC OROGENESIS IN NORTHERN TIBET: NEW EVIDENCE FROM THE QAIDAM BASIN

BUSH, Meredith A., Department of Geological Sciences, Jackson School of Geosciences, University of Texas at Austin, Austin, TX 78712, meredith.a.bush@utexas.edu, HORTON, Brian K., Institute for Geophysics and Department of Geological Sciences, Jackson School of Geosciences, University of Texas at Austin, Austin, TX 78712, SAYLOR, Joel E., Department of Earth and Atmospheric Sciences, University of Houston, Houston, TX 77204, and NIE, Junsheng, Key Lab of Western China's Environmental Systems (Ministry of Education), Lanzhou University, Lanzhou, 730000, China

Session No. 403

T199. Impact of GSSPs on The Evolution of North American Chronostratigraphy

Wednesday, 30 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 401

Paper No. 403-6

Presentation Time: 2:45 PM

ROLE OF THE HANGENBERG EXCURSION AND MAGNETIC SUSCEPTIBILITY STRATIGRAPHY IN SELECTION OF A NEW DEVONIAN-CARBONIFEROUS SYSTEM BOUNDARY

DAY, Jed¹, CRAMER, Bradley D.², SALTZMAN, Matt³, WITZKE, Brian J.², ROWE, Harry⁴, and ELLWOOD, Brooks B.⁵, (1) Geography & Geology, Illinois State Univ, Normal, IL 61790-4400, jeday@ilstu.edu, (2) Department of Geoscience, University of Iowa, 121 Trowbridge Hall, Iowa City, IA 52242, (3) Department of Geological Sciences, The Ohio State University, Columbus, OH 43210, (4) Bureau of Economic Geology, The University of Texas at Austin, The Jackson School of Geoscience, University Station, Box X, Austin, TX 78713-8924, (5) Department of Geology & Geophysics, Louisiana State Univ, Baton Rouge, LA 70803

Session No. 404

T213. Through the Looking Glass: Microstructural Insights into Tectonic Processes

Wednesday, 30 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 507

Paper No. 404-4

Presentation Time: 1:55 PM

RHEOLOGICAL PROPERTIES OF THE MANTLE LID BENEATH THE MOJAVE REGION

BEHR, Whitney M., Department of Geological Sciences, University of Texas at Austin, Austin, TX 78712, behr@utexas.edu and HIRTH, Greg, Geological Sciences, Brown University, Box 1846, 324 Brook St, Providence, RI 02912

Session No. 406

T241. Ancient Polar Ecosystems and Climate History in Deep Time

Wednesday, 30 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 607

Paper No. 406-1

Presentation Time: 1:15 PM

ICHTNOFOSSILS AS PROXIES FOR POLAR ECOSYSTEMS AND CLIMATES: AN EXAMPLE OF A HYDROCLIMATE SHIFT IN PERMIAN-TRIASSIC CONTINENTAL DEPOSITS OF THE BEARDMORE GLACIER REGION OF ANTARCTICA

HASIoTIS, Stephen T.1, FLAIG, Peter P.2, ISBELL, John L.3, GULBRANSON, Erik L.3, and SIEGER, Danielle N.4, (1) Department of Geology, University of Kansas, 1475 Jayhawk Blvd, 120 Lindley Hall, Lawrence, KS 66045-7613, hasiotis@ku.edu, (2) Bureau of Economic Geology, University of Texas at Austin, Jackson School of Geosciences, 10100 Burnet Rd, Austin, TX 78758, (3) Geosciences, University of Wisconsin-Milwaukee, Milwaukee, WI 53201, (4) Department of Geosciences, University of Wisconsin-Milwaukee, Milwaukee, WI 53201

Session No. 406

T241. Ancient Polar Ecosystems and Climate History in Deep Time

Wednesday, 30 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 607

Paper No. 406-2

Presentation Time: 1:30 PM

SEDIMENTOLOGY AND ICHNOLOGY OF PERMO-TRIASSIC STRATA AT LAMPING PEAK, CENTRAL TRANSANTARCTIC MOUNTAINS, ANTARCTICA: PALEOPOLAR FORESTS, LAKES AND BRAIDED RIVERS IN A GREENHOUSE WORLD

FLAIG, Peter P., Bureau of Economic Geology, University of Texas at Austin, Jackson School of Geosciences, 10100 Burnet Rd, Austin, TX 78758, peter.flaig@beg.utexas.edu, HASIoTIS, Stephen T., Department of Geology, University of Kansas, 1475 Jayhawk Blvd, 120 Lindley Hall, Lawrence, KS 66045-7613, ISBELL, John L., Geosciences, University of Wisconsin-Milwaukee, Milwaukee, WI 53201, and SIEGER, Danielle, N., Department of Geosciences, University of Wisconsin-Milwaukee, Milwaukee, WI 53201

Session No. 406

T241. Ancient Polar Ecosystems and Climate History in Deep Time

Wednesday, 30 October 2013: 1:00 PM-5:00 PM

Colorado Convention Center Room 607

Paper No. 406-8

Presentation Time: 3:30 PM

EXPLORING THE ROLE OF THE HYDROLOGIC CYCLE IN ARCTIC AMPLIFICATION DURING THE GREENHOUSE WORLDS OF THE CRETACEOUS AND PALEOGENE

LUDVIGSON, G.A., Kansas Geological Survey, University of Kansas, Lawrence, KS 66047, gludvigson@kgs.ku.edu, GONZALEZ, Luis A., Department of Geology, University of Kansas, Lawrence, KS 66045-7613, SUAREZ, Celina, Geosciences, University of Arkansas, 346 Arkansas Ave, Fayetteville, AR 72701, FIORILLO, Anthony R., Perot Museum of Nature and Science, 2201 N. Field St, Dallas, TX 75201, MCCARTHY, Paul, Geology and Geophysics, University of Alaska, Fairbanks, P.O. Box 755780, Fairbanks, AK 99775, and FLAIG, Peter P., Bureau of Economic Geology, University of Texas at Austin, Jackson School of Geosciences, 10100 Burnet Rd, Austin, TX 78758

Poster Sessions

Sunday, Oct. 27

Session No. 36--Booth# 103

Phylogeny, Morphology and Evolution (Posters)

Sunday, 27 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 36-23

Presentation Time: 9:00 AM-6:30 PM

MISSING MUZZLE FOUND: NEW SKULL MATERIAL REFERABLE TO APATOSAURUS AJAX (MARSH 1877) FROM THE MORRISON FORMATION OF MORRISON, COLORADO

MOSSBRUCKER, Matthew T., Morrison Natural History Museum, 501 Colorado Highway 8, Post Office Box 564, Morrison, CO 80465, director@mnhm.org, BAKKER, Robert T., Department of Paleontology, Houston Museum of Natural Science, 5555 Hermann Park Drive, Houston, TX 77030-1799, and MARSH, Adam D., Jackson School of Geosciences, University of Texas at Austin, 2225 Speedway, Stop C1160, Austin, TX 78712

Session No. 37--Booth# 118

Precambrian Geology (Posters)

Sunday, 27 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 37-8

Presentation Time: 9:00 AM-6:30 PM

USING PALEOMAGNETISM TO DETERMINE PALEOGEOGRAPHIC HISTORY AND TECTONIC RELATIONS OF THE SINCLAIR TERRANE, NAMIBIA

PANZIK, Joseph E., Department of Geology and Geophysics, Yale University, New Haven, CT 06511, jepanzik@gmail.com, KASBOHM, Jennifer J., Geology and Geophysics, Yale University, New Haven, CT 06511, EVANS, David A.D., Department of Geology and Geophysics, Yale University, New Haven, CT 06520, HANSON, Richard E., School of Geology, Energy and the Environment, Texas Christian University, Fort Worth, TX 76129, and GOSE, Wulf A., Department of Geological Sciences, Jackson School for Geosciences, University of Texas, Austin, TX 78712

Session No. 39--Booth# 174

Quaternary Geology and Geomorphology (Posters)

Sunday, 27 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 39-44

Presentation Time: 9:00 AM-6:30 PM

POTENTIAL IMPACTS TO LANDSCAPES AND HYDROLOGIC FLOWS FROM ABOVE-GROUND ACTIVITIES IN THE EAGLE FORD SHALE PLAY

PIERRE, Jon Paul, Energy and Earth Resources Graduate Program, Jackson School of Geosciences, University of Texas at Austin, Austin, TX 78712, jppierre@utexas.edu, ABOLT, Charles J., Department of Geological Sciences, Jackson School of Geosciences, University of

Texas at Austin, Austin, TX 78712, and YOUNG, Michael H., Bureau of Economic Geology, University of Texas at Austin, University Station, Box X, Austin, TX 78712

Session No. 40--Booth# 183

Recent Advances in Clastic Sediment Research (Posters)

Sunday, 27 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 40-6

Presentation Time: 9:00 AM-6:30 PM

NEW SMEAR-SLIDE REFERENCE TOOL FOR FINE-GRAINED SEDIMENT DESCRIPTION

MARSAGLIA, Kathleen M.¹, MILLIKEN, Kitty², DORAN, Linda¹, TENTORI, Daniel¹, and LECKIE, R. Mark³, (1) Dept of Geological Sciences, California State University, 18111 Nordhoff St, Northridge, CA 91330-8266, kathie.marsaglia@csun.edu, (2) Bureau of Economic Geology, The University of Texas at Austin, Austin, TX 78713-9824, (3) University of Massachusetts Amherst, Department of Geosciences UMass, 611 N. Pleasant St, Amherst, MA 01003

Session No. 40--Booth# 206

Recent Advances in Clastic Sediment Research (Posters)

Sunday, 27 October 2013: 9:00 AM-6:30 PM

Paper No. 40-29

Presentation Time: 9:00 AM-6:30 PM

QUANTITATIVE MICROTTEXTURAL STUDY OF THE SILT FRACTION IN MUDROCKS LUNSFORD, Joel D., Bureau of Economic Geology, The University of Texas at Austin, Austin, TX 78758, jlunsford@utexas.edu, HAYMAN, Nicholas W., Institute for Geophysics, University of Texas, 10100 Burnet Rd, Bldg 196, Austin, TX 78758, and MILLIKEN, Kitty, Bureau of Economic Geology, The University of Texas at Austin, Austin, TX 78713-9824

Session No. 44

T11. Topics in Planetary Geology (Posters)

Sunday, 27 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 44-20

Presentation Time: 2:00 PM

LONG-LIVED GLACIATION IN THE NORTHERN MID-LATITUDES OF MARS: NEW CONSTRAINTS ON ICE VOLUMES AND TIMING

FASSETT, Caleb I.¹, LEVY, Joseph², HEAD, James W.³, and DICKSON, James L.³, (1) Department of Astronomy, Mount Holyoke College, South Hadley, MA 01075, cfassett@mtholyoke.edu, (2) Utig, University of Texas, 10100 Burnet Road, Austin, TX 78758, (3) Department of Geological Sciences, Brown University, Providence, RI 02912

Monday, Oct. 28

Session No. 126--Booth# 39

Paleoecology and Taphonomy (Posters)

Monday, 28 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 126-13

Presentation Time: 9:00 AM-6:30 PM

EOCENE GYROLITHES-THALASSINOIDES ICHNOCOENOSSES FROM ALABAMA AND PERU: IMPLICATIONS FOR MARINE VERTEBRATE TAPHONOMY

LIVELY, Joshua, Department of Geological Sciences, The University of Texas at Austin, Austin, TX 78712, joshuarlively@utexas.edu

Session No. 137

T64. Lacustrine Basin Analysis and Petroleum Systems: Ancient Case Studies, Modern Analogs, New Frontiers (Posters)

Monday, 28 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 137-11

Presentation Time: 11:30 AM

SEQUENCE STRATIGRAPHY AND THE STABLE ISOTOPE RECORD OF THE ZHADA BASIN, SW TIBET: IMPLICATIONS FOR PALEOELEVATION RESEARCH

SAYLOR, Joel E., Department of Earth and Atmospheric Sciences, University of Houston, Houston, TX 77204, jesaylor@uh.edu, NIE, Junsheng, Key Lab of Western China's Environmental Systems (Ministry of Education), Lanzhou University, Lanzhou, 730000, China, and SHANAHAN, Tim, Department of Geological Sciences, University of Texas at Austin, 1 University Station C1100, Austin, TX 78712

Tuesday, Oct. 29

Session No. 223--Booth# 6

Economic Geology (Posters)

Tuesday, 29 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 223-6

Presentation Time: 9:00 AM-6:30 PM

**STOCKWORK FRACTURING AND VEINING HISTORY OF THE RED HILLS
PORPHYRY MO-CU DEPOSIT, TRANS-PECOS TEXAS**

FRELINGER, Stefanie, Department of Geological Sciences, Jackson School of Geosciences, University of Texas at Austin, 5303 Westminster Dr, Austin, TX 78723, sfreling11@gmail.com and KYLE, J. Richard, Department of Geological Sciences, Jackson School of Geosciences, University of Texas at Austin, Austin, TX 78712

Session No. 229

T25. Deserts: Quaternary Hydro-Geomorphologic, Climatic, and Environmental Changes in the World's Deserts (Posters): Honoring Prof. Farouk El-Baz

Tuesday, 29 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 229-1

Presentation Time: 9:00 AM

**DESCRIPTION AND DISTRIBUTION OF COLD DESERT SALTS IN THE MCMURDO
REGION, ANTARCTICA**

BISSON, Kelsey M., Byrd Polar Research Center, The Ohio State University, 1090 Carmack Road, Columbus, OH 43210, kelsey.bisson@lifesci.ucsb.edu, WELCH, Kathleen A., Byrd Polar Research Center, The Ohio State University, 1090 Carmack Rd, 108 Scott Hall, Columbus, OH 43210-1002, WELCH, Susan A., School of Earth Sciences, The Ohio State University, 275 Mendenhall Laboratory, 125 South Oval Mall, Columbus, OH 43210-1398, LYONS, Berry, Byrd Polar Research Center, Ohio State University, 1090 Carmack Road, Columbus, OH 43210-1002, SHEETS, Julia M., SEMCAL, School of Earth Sciences, The Ohio State University, 275 Mendenhall, 125 South Oval Mall, Columbus, OH 43210, LEVY, Joseph, Utig, University of Texas, 10100 Burnet Road, Austin, TX 78758, and FOUNTAIN, Andrew G., Geology and Geography, Portland State University, Portland, OR 97207

Session No. 237

T103. Fluids, Stress, and Episodicity in Subduction Settings: What We Need to Know (Posters)

Tuesday, 29 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 237-3

Presentation Time: 9:30 AM

**OXYGEN ISOTOPES OF CALIFORNIA SKARN GARNETS: MONITORS OF FLUID
INFILTRATION AND DECARBONATION IN MESOZOIC ARCS**

FULTON, Anne A.1, LACKEY, Jade Star1, SENDEK, Callie2, and BARNES, Jaime D.3, (1) Geology Department, Pomona College, 185 E. 6th St, Claremont, CA 91711, aaf02011@mymail.pomona.edu, (2) Department of Geology, San José State University, One

Washington Square, San Jose, CA 95192-0102, (3) Jackson School of Geosciences, The University of Texas at Austin, 1 University Station, C1160, Austin, TX 78712

Session No. 247

T165. Sigma Gamma Epsilon Undergraduate Research (Posters)

Tuesday, 29 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 247-78

Presentation Time: 4:15 AM

COMMON PB IN MONAZITE

GABER, Isis W., Jackson School of Geosciences, University of Texas at Austin, 2225 Speedway, Stop C1160, Austin, TX 78712, ezees.gaber@gmail.com and CATLOS, Elizabeth J., Geological Sciences, University of Texas at Austin, Jackson School of Geosciences, Austin, TX 78712

Session No. 248

T184. Recent Advances in Thermochronology (Posters)

Tuesday, 29 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 248-2

Presentation Time: 9:15 AM

VETTING UNCONVENTIONAL MINERALS FOR THERMOCHRONOLOGY

HERNANDEZ GOLDSTEIN, Emily J., STOCKLI, Daniel F., and KETCHAM, Richard A., Department of Geological Sciences, University of Texas at Austin, Austin, TX 78712, emilygoldstein@utexas.edu

Session No. 250

T186. STAMP: Structure, Tectonics, and Metamorphic Petrology (Posters)

Tuesday, 29 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 250-4

Presentation Time: 9:45 AM

IMPACT OF METEORIC FLUID FLOW ON THE THERMAL EVOLUTION OF THE GOTTHARD MASSIF; INSIGHTS FROM ALPINE RAILWAY TUNNELS

ARNOST, Daniel R., Department of Geological Sciences, University of Texas at Austin, Jackson School of Geosciences, 1 University Station C9000, Austin, TX 78712-1692, danielarnost@utexas.edu and STOCKLI, Daniel F., Department of Geological Sciences, University of Texas at Austin, Austin, TX 78712

Session No. 250

T186. STAMP: Structure, Tectonics, and Metamorphic Petrology (Posters)

Tuesday, 29 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 250-14

Presentation Time: 12:15 PM

REACTIVATION OF FRACTURES AS DISCRETE SHEAR ZONES FROM FLUID
ENHANCED REACTION SOFTENING, HARQUAHALA METAMORPHIC CORE
COMPLEX, AZ

POLLARD, Brittney M., Geoscience, University of Texas at Austin, Austin, TX 78712,
brittneypollard@gmail.com, SINGLETON, John, Atmospheric, Oceanic, and Earth Sciences,
George Mason University, 4400 University Drive, Mail Stop 5F2, Fairfax, VA 22030, and
MOSHER, Sharon, Department of Geological Sciences, Jackson School of Geosciences, The
University of Texas at Austin, 1 University Station C1100, Austin, TX 78712-0254

Session No. 251

T191. The Rio Grande Rift: New Insights on the Evolution of Faulting, Magmatism,
Sedimentation, and Landscape (Posters)

Tuesday, 29 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 251-6

Presentation Time: 10:15 AM

PRELIMINARY MAGNETIC ANALYSIS OF THE USGS BP3 CORE, GREAT SAND
DUNES NATIONAL PARK, COLORADO

DAVIS, Joshua K., Department of Geological Sciences, University of Texas, Austin, TX 78712-
1692, buddavis@utexas.edu, HUDSON, Mark R., U.S. Geological Survey, Box 25046, DFC,
MS 980, Denver, CO 80225, SLATE, Janet L., U.S. Geological Survey, Box 25046, DFC, MS
406, Denver, CO 80225, and GRAUCH, V.J.S., U.S. Geological Survey, Box 25046, DFC, MS
964, Denver, CO 80225

Session No. 252

T195. Advances in Quantitative Sediment Provenance Research: Novel Approaches from Multi-
Proxy Provenance Data to Provenance Modeling (Posters)

Tuesday, 29 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 252-1

Presentation Time: 9:00 AM

CHARACTERIZATION OF TURBIDITES AND DETRITAL ZIRCON PROVENANCE OF
SEDIMENTS DEPOSITED IN THE MIOCENE TO PLIOCENE GULF OF CALIFORNIA
EXPOSED WITHIN SPLIT MOUNTAIN GORGE, SOUTHERN CALIFORNIA

CLOOS, Michael, STEEL, Ron, and STOCKLI, Daniel F., Geological Sciences, University of
Texas at Austin, Austin, TX 78712, michael.cloos@utexas.edu

Session No. 252

T195. Advances in Quantitative Sediment Provenance Research: Novel Approaches from Multi-
Proxy Provenance Data to Provenance Modeling (Posters)

Tuesday, 29 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 252-6

Presentation Time: 10:15 AM

DETRITAL ZIRCON GEOCHRONOLOGY OF BULL RUN AND COPPER BASINS, NV

SEYMOUR, Nikki M., Department of Geological Sciences, The University of Texas at Austin, Jackson School of Geosciences, 1 University Station C9000, Austin, TX 78712, nikki.m.seymour@utexas.edu, CASSEL, Elizabeth J., Geological Sciences, University of Texas at Austin, Austin, TX 78712, and STOCKLI, Daniel F., Department of Geological Sciences, University of Texas at Austin, Austin, TX 78712

Session No. 252

T195. Advances in Quantitative Sediment Provenance Research: Novel Approaches from Multi-Proxy Provenance Data to Provenance Modeling (Posters)

Tuesday, 29 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 252-7

Presentation Time: 10:30 AM

PALEOGENE RECORD OF ANACONDA METAMORPHIC CORE COMPLEX
UNROOFING AND SEDIMENT DISPERSAL IN THE DEER LODGE BASIN OF
SOUTHWEST MONTANA

SCHRICKER, Lauren¹, STATZA, Mary¹, BARBER, Douglas E.², SCHWARTZ, Robert K.¹, and ELLIOTT, Colleen³, (1) Department of Geology, Allegheny College, Meadville, PA 16335, schrickerl@allegheny.edu, (2) Jackson School of Geosciences, The University of Texas at Austin, Austin, TX 78712, (3) Montana Bureau of Mines and Geology, Montana Tech, 1300 W. Park Street, Butte, MT 59701

Session No. 253

T201. Arizona Geology: A Session on All Aspects of Arizona Geology Convened to Commemorate the 125th Anniversary of the Arizona Geological Survey (Posters)

Tuesday, 29 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 253-17

Presentation Time: 1:00 PM

LATE EXTENSION INCEPTION AND RAPID FAULT-SLIP AT THE SOUTHERN EDGE
OF THE LOWER COLORADO RIVER EXTENSIONAL CORRIDOR: HARQUAHALA
MOUNTAINS CORE COMPLEX, WEST-CENTRAL ARIZONA

PRIOR, Michael G., Department of Geological Sciences, University of Texas at Austin, Jackson School of Geosciences, 1 University Station C9000, Austin, TX 78712-0254, mprior@utexas.edu and STOCKLI, Daniel F., Department of Geological Sciences, University of Texas at Austin, Austin, TX 78712

Wednesday, Oct. 30

Session No. 332--Booth# 29

Metamorphic Petrology (Posters)

Wednesday, 30 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 332-2

Presentation Time: 9:00 AM-6:30 PM

DECIPHERING P-T CONDITIONS OF METAMORPHIC ROCKS FROM THE MENDERES MASSIF OF SW TURKEY

ATAKTURK, Katelyn, Jackson School of Geosciences, The University of Texas at Austin, Jackson School of Geosciences, 2225 Speedway, Stop C1160, Austin, TX 78712, atakturk@utexas.edu, CATLOS, E.J., Geological Sciences, University of Texas at Austin, Jackson School of Geosciences, Austin, TX 78712, DINIZ, Emre, Boone Pickens School of Geology, Oklahoma State University, Noble Research Center, Oklahoma State University, Stillwater, OK 74078, and ÇEMEN, Ibrahim, Department of Geological Sciences, The University of Alabama, Tuscaloosa, AL 35487

Session No. 332--Booth# 33

Metamorphic Petrology (Posters)

Wednesday, 30 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 332-6

Presentation Time: 9:00 AM-6:30 PM

METAMORPHISM AND ALTERATION OF MAFIC AND ULTRAMAFIC ROCKS AT BLACK MOUNTAIN, SOUTHERN MOJAVE DESERT, CA

HAVRANEK, Rachel E.1, LACKEY, Jade Star1, SCHWARTZ, Joshua J.2, and BARNES, Jaime D.3, (1) Geology Department, Pomona College, 185 E. 6th St, Claremont, CA 91711, reh02010@mymail.pomona.edu, (2) Department of Geological Sciences, California State University Northridge, 18111 Nordhoff Street, Northridge, CA 91330, (3) Jackson School of Geosciences, The University of Texas at Austin, 1 University Station, C1160, Austin, TX 78712

Session No. 334--Booth# 49

New Insights in Geochemistry (Posters)

Wednesday, 30 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 334-6

Presentation Time: 9:00 AM-6:30 PM

APPLICATION OF MODERN CAVE DRIPWATER GEOCHEMISTRY TO UNDERSTANDING SEASONAL CHANGES IN MINERAL-SOLUTION REACTIONS: IMPLICATIONS FOR RECONSTRUCTING PALEOCLIMATE FROM SPELEOTHEMS

THAYER, Abigail G., Chemistry and Biochemistry, Ohio Northern University, 525 South Main St, Ada, OH 45810, a-thayer.1@onu.edu, BANNER, Jay, Jackson School of Geosciences, University of Texas at Austin, 1 University Station, C1100, Austin, TX 78712, and CASTEEL, Richard, Department of Geological Sciences, The University of Texas at Austin, Austin, TX 78712

Session No. 348

T101. Celebrating 125 Years of Coal and Source Rock Science: From Fundamental Principles to Applied Technology (Posters)

Wednesday, 30 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 348-4

Presentation Time: 9:45 AM

GEOCHEMISTRY AND PETROLOGY OF THERMALLY ALTERED COALS: 13C SIGNATURES OF WHOLE COAL AND VITRINITE CONCENTRATES SUGGEST NO EVIDENCE OF METHANE GENERATION FROM THE SPRINGFIELD (NO. 5) COAL, ILLINOIS BASIN

RAHMAN, Mohammad W., Department of Geology, Southern Illinois University, 1259 Lincoln Dr, Mailcode 4324, Carbondale, IL 62901, mwrahman@siu.edu, RIMMER, Susan M., Department of Geology, Southern Illinois University, Mailcode 4324, Carbondale, IL 62901, and ROWE, Harry, Bureau of Economic Geology, The University of Texas at Austin, The Jackson School of Geoscience, University Station, Box X, Austin, TX 78713-8924

Session No. 363

T188. Tethyan Evolution and Seismotectonics of Southwest Asia: In Honor of the 40 Years of Manuel Berberian's Research Contributions (Posters)

Wednesday, 30 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 363-13

Presentation Time: 12:00 PM

COUPLING LOW-TEMPERATURE THERMOCHRONOMETRY AND SEQUENTIAL RESTORATION OF BALANCED CROSS-SECTIONS: NEW CONSTRAINTS ON THE TECTONIC EVOLUTION OF THE WESTERN CARPATHIANS (POLAND, SLOVAKIA AND UKRAINE)

CASTELLUCCIO, Ada¹, ANDREUCCI, Benedetta¹, JANKOWSKI, Leszek², KETCHAM, Richard A.³, MAZZOLI, Stefano⁴, SZANIAWSKI, Rafal⁵, and ZATTIN, Massimiliano⁶, (1) Department of Geosciences, University of Padua, Via Giovanni Gradenigo 6, Padua, 35131, Italy, ada.castelluccio@studenti.unipd.it, (2) Polish Geological Institute-Carpathian Branch, ul. Skrzatów 1, Kraków, 31-560, Poland, (3) Dept. of Geological Sciences, Jackson School of Geosciences, The University of Texas, Austin, TX 78712, (4) Department of Earth Sciences, University of Naples Federico II, Largo San Marcellino 10, Napoli, 80138, (5) Institute of Geophysics, Polish Academy of Sciences, Ks. Janusza 64, Warsaw, 01-452, Poland, (6) Department of Geosciences, University of Padua, Via Giovanni Gradenigo 6, Padova, 35137

Session No. 366

T205. From Extension to Rift to Drift: Geological, Geophysical, and Geodynamic Perspectives (Posters)

Wednesday, 30 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 366-2

Presentation Time: 9:15 AM

INITIATION AND EVOLUTION OF FAULT AND FRACTURE SYSTEMS IN THE UPPER OCEANIC CRUST

BROWNE, Cassandra, University of Texas at Austin, Institute for Geophysics, J.J. Pickle Research Campus, Bldg. 196, 10100 Burnet Rd. (R2200), Austin, TX 78758, cbrowne@utexas.edu, HAYMAN, Nicholas W., Institute for Geophysics, University of Texas, 10100 Burnet Rd, Bldg 196, Austin, TX 78758, MARONE, Chris, Geosciences, Penn State University, 503 Deike Building, University Park, PA 16802, and KAPROTH, Bryan M., Dept. of Geological Sciences, Penn State University, State College, 16802

Session No. 366

T205. From Extension to Rift to Drift: Geological, Geophysical, and Geodynamic Perspectives (Posters)

Wednesday, 30 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 366-5

Presentation Time: 10:00 AM

RIFT-TO-DRIFT IN THE GULF OF MEXICO: EVIDENCE FOR SYN-RIFT VOLCANISM AND SEAFLOOR-SPREADING FROM MARINE SEISMIC REFRACTION DATA

EDDY, Drew¹, VAN AVENDONK, Harm¹, CHRISTESON, Gail L.¹, NORTON, Ian¹, KARNER, Garry², JOHNSON, Chris², KNELLER, Erik², and SNEDDEN, John¹, (1) Jackson School of Geosciences, Institute for Geophysics, The University of Texas at Austin, Austin, TX 78758, drew.eddy@utexas.edu, (2) ExxonMobil Upstream Research Company, 3120 Buffalo Speedway, Houston, TX 77098

Session No. 366

T205. From Extension to Rift to Drift: Geological, Geophysical, and Geodynamic Perspectives (Posters)

Wednesday, 30 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 366-6

Presentation Time: 10:15 AM

LINKING TECTONIC EVOLUTION WITH FLUID HISTORY IN HYPER-EXTENDED RIFTED MARGINS: EXAMPLES FROM THE FOSSIL ALPINE AND PYRENEAN RIFT SYSTEMS, AND THE PRESENT-DAY IBERIA RIFTED MARGIN

PINTO, Victor Hugo G.¹, MANATSCHAL, Gianreto¹, KARPOFF, Anne Marie², MASINI, Emmanuel¹, HAYMAN, Nicholas W.³, and VIANA, Adriano⁴, (1) Institut de Physique du Globe de Strasbourg, Université de Strasbourg, 1 rue Blessig, Strasbourg, 67084, France, vpinto@unistra.fr, (2) Institut de Physique du Globe de Strasbourg-CNRS, Université de Strasbourg, 1 rue Blessig, Strasbourg, 67084, France, (3) Institute for Geophysics, University of Texas, 10100 Burnet Rd, Bldg 196, Austin, TX 78758, (4) Cenpes, Petrobras, Rio de Janeiro, 21941-915, Brazil

Session No. 366

T205. From Extension to Rift to Drift: Geological, Geophysical, and Geodynamic Perspectives (Posters)

Wednesday, 30 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 366-7

Presentation Time: 10:30 AM

TEMPORAL CONSTRAINTS ON MULTIPLE RIFTING STAGES OF A HYPER-EXTENDED CONTINENTAL MARGIN USING COUPLED BEDROCK AND DETRITAL THERMOCHRONOMETRY, MAULEON BASIN, WESTERN PYRENEES

HART, Nicole R., Jackson School of Geosciences, The University of Texas at Austin, Austin, TX 78712, hartnic4@utexas.edu, STOCKLI, Daniel F., Department of Geological Sciences, University of Texas at Austin, Austin, TX 78712, LAVIER, L., Institute for Geophysics- Jackson School of Geosciences, University of Texas at Austin, Pickle Research Campus, 10100 Burnet Rd. (Bldg 196), Austin, TX 78758-4445, and HAYMAN, Nicholas W., Institute for Geophysics, University of Texas, 10100 Burnet Rd, Bldg 196, Austin, TX 78758

Session No. 368

T208. Hinterland, Retroarc Fold- Thrust Belt, and Foreland Systems (Posters)

Wednesday, 30 October 2013: 9:00 AM-6:30 PM

Colorado Convention Center Hall D

Paper No. 368-10

Presentation Time: 11:15 AM

EARLY CRETACEOUS CONSTRUCTION AND PRE-LATE EOCENE EXTENSIONAL COLLAPSE OF A STRUCTURAL CULMINATION, EUREKA, NEVADA: IMPLICATIONS FOR OUT-OF-SEQUENCE DEFORMATION IN THE SEVIER HINTERLAND

LONG, Sean P., Nevada Bureau of Mines and Geology, University of Nevada, Reno, Mail Stop 178, University of Nevada, Reno, NV 89557, splong@unr.edu, HENRY, Christopher D., Nevada Bureau of Mines and Geology, University of Nevada, Reno, NV 89557, MUNTEAN, John L., Nevada Bureau of Mines and Geology, University of Nevada Reno, Reno, NV 89557, EDMONDO, Gary, Timberline Resources Corporation, Coeur D' Alene, ID 83814, and CASSEL, Elizabeth J., Geological Sciences, University of Texas at Austin, Austin, TX 78712